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The influence of the various age epochs in the causation of mental diseases; with reference to 500 cases of acquired insanity.

by

Thomas M. Anderson,

M.B., Ch.B.

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INTRODUCTION

It is of interest to observe that no matter how far back we enquire into the subject of mental unsoundness, the various authors appear to regard the age epochs as having a distinct relationship to the causation of insanity.

The terms "adolescent insanity" and "senile insanity" are known to all; but can we justly attrib--ute the cause of a definite mental attack to a normal physiological factor? Were this the case, then undoubtedly insanity should be more abundant than we find it.

There is in all likelihood an extra strain thrown upon the body and mind at these periods, but surely it is not the period alone that is at fault and the term, "adolescent insanity", of the older writers would be better described as a case, for example, of mania or melancholia occurring during adolescence. There can be little doubt that during the whole life of an individual from early infancy there are definite periods, which we term periods of physiological strain. It is but natural to suppose that during the life of a child, the physiological changes which we associate with growth involve a considerable strain, but the normal change is as a rule so uniform and the metamorphosis so absolutely natural, that we can scarcely realise such a thing as

unequal development of any one part. Nature has provided that the average person should pass through these periods of strain unaffected. There are, however, the exceptions, and in this research I am anxious if possible to show, from the careful examination of many cases, whether or not mental diseases bear any distinct relationship to the various periods of normal physiological stress.

It struck me that an exhaustive enquiry into 500 consecutive cases might throw some light on the question. I selected 500 consecutive cases from the admission register of the Crichton Royal, Dumfries, and the great majority of the cases were personally known to me.

I made or obtained a diagnosis of each case. I ascertained the age of each admission in order to find out if certain forms of mental disease were in a measure characteristic of the various age epochs.

The age epochs I selected were (1) pubescence, (2) adolescence, (3) adult life, (4) the climacteric, and (5) senility.

I have not included in this paper the following recognised forms of mental disease, namely, alcoholic and syphilitic insanity, moral or volitional insanity, general paralysis of the insane, epileptic insanity, puerperal forms, states of stupor, etc.

A person, for example, may be the victim of alcoholic insanity and yet the predominant features

may be excitement or delusions; or a puerperal case may show intense excitement as its outstanding clinical feature; so also may a general paralytic, or an epileptic. Especially did I consider it unwise to include the cases in whom I could even suspect a gross brain lesion.

I have laid no special stress upon the insanities occurring before, during, or after childbirth: it does not appear to be necessary; for in my opinion such conditions influence and may unhinge a woman mentally in the same way as would any other accident involving severe shock or strain. I may mention, however, that I did not come across any case of profound delirious mania occurring in thepuerperium — quite a different disease from the ordinary simple mania.

States of stupor were not included because, out of my 500 cases, only one was diagnosed as such. Undoubtedly alienists now-a-days hesitate to make the diagnosis of Stupor, and are inclined to take a bolder course and place such states in the group of dementia praecox.

In the so-called alcoholic cases it is almost impossible to distinguish between cause and effect. Does the individual drink because he is alcoholic, or is he an alcoholic because he drinks ? Féré's dictum, "To become an alcoholic one must be alcoholisable " is most apt and at once suggests to us

that for statistical purposes, cases in which alcohol is a very important factor, should not be included. The so-called alcoholic insanity may take the form of mania or melancholia, but such cases cannot reasonably be compared with the ordinary states of excitement and depression..

Cases of gross organic brain disease, as I have pointed out, are not included: they may, or may not be accompanied by mental symptoms. If for example we take general paralysis, can we reasonably compare the mania of a general paralytic to the ordinary simple mania? Surely not. The former we know is accompanied by widespread disease of the brain, the actual damage being caused, as Noguchi has shewn, by the syphilitic spirochaete,- the latter is accompanied by no change that has yet been discovered. The general paralytic we regard as a case of organic brain disease; the simple mania is more likely to be a disease in the "emotional spheres", if we may use such a term.

In cases of moral insanity we must ask the questions: was it acquired?, or was it born with us ? I think there is no doubt that this condition is an inherent one; therefore, it is not right to include such forms in my statistics, for, after all, if we admit the fact that the condition is an inherent one, then such cases must be regarded as congenital. The cases of volitional and impulsive insanity I place in the same category, that is to say, such states are

inherent, not acquired. For the same reason I did not include congenital cases in this research.

I wish now to briefly discuss the various age epochs which I have already mentioned, namely, puberty, adolescence, adult life, the climacteric, and senility. Although I have fixed certain ages as defining these periods, I can but state that there is bound of necessity to be considerable overlapping. Take for example, adolescence: this from a physical point of view is usually over before 25. We know that a man seldom gains or develops in stature after this age, but the characteristics of his mental life are at 25 not necessarily fully developed.

The age fixed for adult life, namely 26 to 40, is probably too short a period, but a mean had to be taken. Thus a man may be fully developed mentally at 25, and at the other extreme a woman of 40 may have entered the next phase - the climacteric. Although the climacteric in women is over before 55, in men it is not; hence the climacteric period I fixed, in order to cover both sexes, to be from 41 to 55 years. But here again we meet with considerable overlapping. For example, a normal individual in his "fifties" is still in adult life, and it is quite conceivable that he may succumb to a mental illness through the effects of mental strain at this period, although the climacteric element may not have actually entered into the field.

As regards the climacteric, the same factor is apparent; for undoubtedly, in men at least, the climacteric may not appear until between the years of 55 and 60.

I do not think that this period in men is sufficiently recognised, probably because it is not associated with the same well marked physical changes which characterise the female climacteric. That there is a mental change there can be no doubt, for how frequently do we see the irritability and driving energy of adult life becoming mellowed at this period. The pace has begun to slacken, and the passions of life appear to have lost their former intensity; in short, the first stage of decadence has made its appearance.

Following the climacteric, and just before senility sets in, there is undoubtedly a phase in the existence of the human being when his mental and physical life is in great danger of being upset,- a period not of long duration and covered probably by a few years, which I indicate from 56 to 60 — in other words, a presenile state.

Cases of 60 I call senile; not that a man of 60 is necessarily senile mentally or physically, but, taking an average, most people will admit that a man of 60 is not "what he once was": his energies and desires are failing — oncoming mental death. In fact at this age he is beginning to pay for his life.

So also from a physical point of view, the man of 60 is not what he once was, no matter how vigorous and strong he may appear to be. Could he, for example, run a race? Surely not without considerable danger. A change, therefore, has taken place, and that change is the slow onset of physical death. He has his day, but he pays for it, and the price he pays for it is — death. If at 60 he is not the same as he once was, either mentally or physically, then he is, in the finest sense, commencing to die. Hence we are justified in saying that, strictly speaking, he has now entered the senile period.

When the period of true senility has been reached, both mental and physical death are now well on the horizon, and the end cannot be very far distant.

(D). PUBERTY.

Let us now consider in more detail the various age epochs. At the onset of this stage the generative organs commence to functionate; from a physical point of view, this period should be completed by the age of 18, but from a mental point of view it may even be later. During this period there are undoubtedly marked changes going on throughout the whole body, and especially "in the mind". "Before pubescence, as Clouston[2] states, the whole trophic and mental energy has been occupied in acquisition alone; the brain has been growing in bulk rather than developing in higher function." Up till now there has been a physical likeness between the sexes. Although Clouston does not consider puberty to be as dangerous a period as adolescence, he believes that it is the first really dangerous period in the life of both sexes as regards the occurrence of insanity. It is important, therefore, to consider the hypersensitive state of both mind and body at this stage to properly realise how, relatively easily, the normal equilibrium can be upset.

During this period the growth of body and brain may not be going on equally; this is a matter of everyday experience, for we know, for example, how very frequently we see a young child of exceptional abilities of whom great things are expected, and yet who, when he has reached adult life, turns out to be a very ordinary individual. During pubescence the strain is

undoubtedly great and intellectual exertion should be carefully restricted; especially should this be so if there is in the child's family history a tendency to nervous or mental disorders. Further care should be shewn to the child who proceeds to grow very rapidly. In such a case, intellectual work should even be put aside; were this more emphatically impressed upon those who have to do with the upbringing of young children, then I feel certain that many of the mental illnesses which take origin during this period could be arrested. It is a common story, when taking the history of a mental case, to hear it stated that the individual in question was exceptionally clever as a young child and "keen on his books". But herein the danger lies; the proud and perhaps ever anxious parent, instead of assisting nature by regulating such mental precocity and insisting upon intellectual moderation, fosters and encourages the expenditure of the child's intellectual energy. The result of over-exertion is over-fatigue, which is followed by intellectual stagnation, and, instead of growth, there is atrophy and perhaps to such an extent that unfortunately proper growth is now no longer possible. At the onset of puberty we frequently notice the commencement of definite mental disease; but apart from this, and even in the child of average intellect, we meet with changes in the disposition, changes in the emotional sphere, doubts and fears.

I have already mentioned that at puberty, the generative organs commence to functionate, and it is interesting to note that several authorities, notably Kræpelin, trace the cause of dementia praecox - a disease chiefly of young life - as an auto-intoxication derived probably from a disorder of secretion of the sexual organs.

With reference to the period of pubescence, Clouston[3] considers that the child's brain before puberty, in regard to its liability to real unsoundness of mind apart from mental defect, need not cause any special anxiety. Unsoundness of mind, apart from this, is seldom seen in children under 10 years of age. Although this is undoubtedly the case, I can but again refer to the danger of intellectual overgrowth; and although the real unsoundness is not frequently noticed at this early age, its seed is there and, if looked for diligently, would doubtless be recognised.

Dr. Charles Mercier,[4] in a recent address at Birmingham, lays special stress upon the developmental impetus given by the sperm cell to the germ cell in conception, an impulse which, if lacking in energy or dissipated in abnormal channels, might be regarded as an important factor in the causation of insanity at the different age epochs. This impulse he considers may expend itself in reaching early childhood, youth, or adolescence; and, according as the development of the brain ceases at one or other of those stages, the

result is idiocy, imbecility, feeble-mindedness, or mere dullness, as the case may be.

However great this developmental impetus may originally have been, it is, as Mercier remarks, 'limited in amount,' and it is directed, after a short initial period, into two channels, namely, growth in bulk, and complexity of development. At birth, the only organ greatly wanting in complexity of development is the brain; all the rest are almost complete and thereafter grow in bulk alone, so that after birth the two great competitors for the single supply of developmental energy are, bulk of body and complexity of brain - the latter standing roughly for development of intelligence.

If the supply of energy is of average amount, or if it is shared in equable proportion between these rivals, the result will be a brain of average ability in a body of average size; but several modes of departure from this normal are possible and are exemplified in experience.

From these conclusions we may reasonably surmise that the extra physiological strain of puberty must, in some cases at least, be considered as an important determining factor in the causation of mental unsoundness. Especially must we take this factor into account when we consider those individuals whose supply of developmental energy has been deficient in amount or directed into abnormal channels.

(2). ADOLESCENCE

For the period of adolescence I have taken the ages from 19 to 25, although, as I have already stated, the characteristics of a man's mental life are not necessarily fully developed at 25; conversely we may assume a more or less early mental development.

About this time, the body is reaching its full growth and the function of reproduction its full development. The female sex, however, commonly reach physical and mental maturity three or four years earlier; for example, a woman at 21 might be said to have reached good physical development.

Herein we foresee a wise provision of nature. The child-bearing period is brought forward to the age of full maturity when undoubtedly the female organism is best able to assume the burdens of maternity. A late conception is commonly associated with weakness, or it may be total imbecility in the offspring; it is well known that children born near the climacteric of the mother are frequently not viable.

The mental likeness between the sexes which is so characteristic of puberty has been gradually disappearing. This mental change, subtle and indefinable, is first noticed in the female sex. Many influences are at work, the result most probably of substances in the circulation derived from the growing and now fully developed reproductive apparatus; obscure longings, tender sentiments, and strong

emotions are awakened.

The adolescent male is now being called upon for the first time to take his place in the world; his struggle for existence has begun; problems which concern his immediate future have to be decided upon; he has often in fact to rely entirely upon his own judgement and reasoning. Up till now, at school or at home, his mind has been made up for him; his period of shepherding is over, childish things are cast aside; he has now to look at the world seriously. A field of action lies before him, opportunities must be looked for and taken advantage of; speculations and doubts may arise.

Both sexes are now faced with the world's vices and temptations, emotional feelings and interest in the opposite sex are prominent. The reproductive activity asserts itself, and, what is of the very greatest importance, the effects of heredity whether favourable or unfavourable, now make their strongest impression. As Clouston[5] remarks: "Society in any "organised form would cease to exist if men and women "remained in the normal condition of boy and girl. "Before this period the powers of self-control, "abstract reasoning, originality and ideas, have not "appeared to any great extent; the higher morality, "the constructive imagination and the spiritual life "have not been possible." There is no doubt, as Clouston says, that this is the malleable period of

life, consequently great effort should be made at this stage to modify, if necessary, unfavourable hereditary influence and provide a healthy and suitable environment capable of developing good character, habits, morals, and a powerful resistance against temptations.

It is interesting to note that Clouston's description of "adolescent insanity" very closely resembles the disease elaborated by Kraepelin under the title of "dementia praecox". As Clouston remarks, "adolescent mental unsoundness and dementia praecox have this in common, that bad heredity is their predisposing cause."

(3) ADULT LIFE.

During the period of adult life which I refer to in my tables as coming between the years of 26 and 40 - a period when the physiological strain of adolescence is past - one might hope, and I am sure quite reasonably, that the incidence of mental unsoundness was less marked.

It is certain that when an individual has passed safely through the unsettled periods of puberty and adolescence, much has been gained. The period of full physiological development has also been reached; we cannot, therefore, say that reserve energy is being used up in that direction.

Mental maturity may be still far distant, however, and it is a matter of frequent experience that we meet with people whose best intellectual work is done when they are well over 30 years of age. The brain we hope is still continuing to develop in complexity, thus giving us an increasing intelligence. We find unfortunately that the incidence of mental unsoundness during adult life is far from being at a minimum.

Mental unsoundness is most marked during the period of adult life. How can we explain this? We may take it that the normal individual has now "gone out into the world", and although his powers of resistance are apparently at their highest, the wear and tear and mental strain of modern life now exert

their full and often united influence.

We know that modern life in all civilized countries,and especially city life, is full of pit-falls. Along with this we often find certain factors acting upon the already weakened organism, namely, drink, sexual dissipation, poverty, unemployment, and continued mental stress. Now, if never before, a healthy mental constitution is called for, and how often do we find an individual handicapped by an inherited nervous instability. The normal healthy individual with a good mental inheritance is able to shake off the effect of such evil influences; he can afford to do so in fact for years. Nature has provided, fortunately for him, a wide margin for excesses. But let him beware! prolonged excesss with mental strain can only have one termination — breakdown. The individual now passes into the "borderland state"; his life is in the melting pot; unless his mode and habits of life are changed immediately, a definite mental attack may reasonably be forecasted. It is at this period that we recognise the value of treatment in incipient cases. Many authorities have long agitated for the presence of mental wards in our general hospitals; with such provision the "borderland cases" might find a haven of refuge and the skilled attention which they so urgently require.

Until ignorant superstition and popular

prejudice against our mental hospitals has died down, temporary provision for such cases is eminently desirable.

There are some who do not consider, or even appear to ignore, the grave importance of continued mental strain and worry, they cannot accept such factors as being causal in the production of mental illness.

I do not mean to dogmatically assert that any person who is exposed to worry is liable to become insane; if such were the case, then insanity would be more prevalent than we find it; indeed there would be few sane people alive today. Can we explain the manner in which such factors as worry and continued mental stress exert their influence?

We must believe first of all that the person who is going to become insane is a person who is possessed of the "neuro-insane constitution", or is of the emotional diathesis. This "peculiarity of temperament" has been proved by many to be the so-called suitable soil on which the disease will grow. One writer[6.] found evidence of this constitution in 93 out of 100 cases. This writer also points out that this constitution may be acquired as he says:
"The person starts life like his neighbour, with a "sound, evenly balanced brain. He is perhaps in later "years exposed to severe strain; in his work - business "or professional - demands excessive care and thought

"and he is subjected to an undue amount of wear and "tear. Through stress of business he neglects "nature's laws; he becomes careless about his mode of "living, neglects to care sufficiently for his body, "is careless about his meals, shuns exercise and "recreation, 'burns the candle at both ends', all for "the sake of his work; and finally he breaks down in "health. He is now no longer the same person. What "would not have worried him before does so now; what "before was his natural manly anxiety becomes restless "uneasiness, perhaps even actual depression; he "commences to lose interest in things, becomes easily "annoyed, apprehensive, and perhaps irritable; he has "in fact acquired the neuro-insane temperament, and is "now on the level with the person who has that tempera-"ment naturally - the gift of a bad heredity. He in his "turn is apt to completely break down and to become "affected mentally."

This is possibly how mental stress exerts its influence; it does not actually cause the disease, but by its constant presence the apparently normal individual is reduced to one of the neuro-insane diathesis - he is now the man who is liable to break down mentally.

This oversight is often the result, I feel certain, of a failure to grasp the fact that such elements in a mental case have acted directly or indirectly as reducing agents. The general tone of

the individual, both mentally and physically, has been lowered; he is, so to speak, "below par"; his powers of resistance are at a discount and, like the ocean derelict, at the mercy of the wind and waves - he is rendered an easy prey to the toxins of an improper or, it may be, a perverted metabolism.

The period of adult life then is not free from danger. It is the period when we get the so-called acquired insanities in most abundance, and I feel strongly that the chief reason for this is, probably derived from the fact that as the result of strain, worry, and adverse circumstances which are so closely associated with the mid period of life, we get the acquired neurotic; and it is this person who stands in danger of becoming mentally upset.

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(4). CLIMACTERIC.

Most assuredly in the history of each individual there comes a time - and this period I have indicated for convenience between the ages of 41 and 55 - when the earliest commencement of physical decay has become apparent. The tide has turned, the first stage of retrogression has begun. This period is popularly referred to as "the change of life", and the time of its onset, as I indicate, varies considerably. In man, the period as a rule is delayed and it is neither so marked nor so characteristic as the female climacteric. The real climacteric, however, in both sexes is a gradual process and usually extends over several years.

In the female sex the cessation of menstruation marks this period, although it must be remembered that the physical climacteric, namely, the actual cessation of menstruation, is not always accompanied by equally marked mental changes.

For example, a woman may be fairly youthful and vigorous mentally in spite of the fact that she has ceased to menstruate for some years; and vice-versa. Mental changes of a degenerative nature may precede her physical climacteric.

About this period of life strong desires and passions as a rule begin to lose in intensity. A man,

no matter how active and vigorous he may have been, at last begins to find the "pace too hot for him"; he can no longer keep abreast in the race; to his dismay he falls behind.

His outlook on life becomes gradually altered. The individual is now in a position to take a calmer and more detached view of life, but, at the same time, the influence of the period with its commencing failure of physical and mental energy, is extremely apt to breed a spirit of pessimism, and depression generally is fairly characteristic of this stage.

The mental state which accompanies the climacteric is associated with fairly marked bodily changes. In a woman especially, we notice the face is gradually changing, the eye has begun to lose its lustre, the figure its outline. The ovaries and uterus become involuted, the red blood corpuscles are diminished in number, and energy everywhere is abated.

While we perceive the sexual power of the female is undergoing involution and gradually waning, the actual cessation of menstruation stamps the closure of her sexual activity.

In the male sex certain bodily changes are fairly characteristic of the stage, although at times we may fail to recognise their real significance. A failing metabolism is recognised by a loss of tone in the muscles and body tissues. Generally, the individual becomes fat and flabby, or on the other

hand, there may be a falling off in nutrition, his appetite diminishes or becomes capricious, the digestion and assimilation of food are impaired; in short, he begins to lose weight.

Preceding the cessation of menstruation in women more often than accompanying it, we note the characteristic flushings, headaches, giddiness, flashes of light, etc., in fact the nervous phenomena which may occur at this period are extremely varied.

It is not uncommon to have marked irritability associated with restlessness and a tendency to depression of spirits, with want of interest in life generally. Such women become easily upset; they are hypersensitive and emotional. This depression may at times almost amount to a definite melancholia, and sexual perversions with a strong tendency to excess of all kinds, are liable to occur.

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(5) SENILITY.

Following the climacteric , and just before senility sets in, there is a recognised period in the life history of each individual, a period not of long duration and probably covered by a few years, during which the mental and physical balance is liable to be shaken, or it may be, even totally upset. I refer to the so-called "presenile" state. It is prodromal in character and probably foreshadows the actual onset of senility. There is evidence that such a period was recognised in ancient times. The Romans, for example, held that a man had reached his Grand Climacteric at the age of 63, when such virile characteristics as courage, ambition, energy and mental aggressiveness were liable to diminish in intensity.

The mental and physical characteristics which we associate with this period are extremely liable to tinge the picture of a mental illness which may have occurred; and, as I have already mentioned, mental unsoundness at this stage is by no means uncommon. Many authorities indeed recognise, for example, such a disease as involutional or presenile melancholia. In this condition the mental and physical characteristics of the presenile state are clearly seen. The true melancholia, should it occur, is tinged by such factors as general diminution of bodily tone, and sluggish heart's action, by a lowering of qualities

such as courage, ambition and energy, and finally by a gradually failing nutrition. Although such mental states are frequently seen at this period, I shall pass on without further comment to the consideration of Senility.

In my tables I include as Senile all cases over sixty years of age; not that a man of sixty is necessarily senile, but a mean had to be taken, and in speaking of senile insanity I shall include no one under sixty years of age.

The normal physiological decline should not be very obvious under sixty, but the time of actual onset of senility varies enormously. It varies not only in different individuals, but in different families; the previous habits of the individual must also be taken into consideration. A few cases are recorded where old age has appeared in adult life; certain races age prematurely, and it is common knowledge that idiots and congenital imbeciles show an early decline.

Disease of the cardio-vascular system is a danger which usually threatens old age - it may be as a generalised arterio-sclerosis, and in such conditions the prognosis rests almost entirely upon the ability or inability to reasonably control the arterial tension. To obtain a favourable prognosis we must endeavour to eliminate such factors as over-exertion, continued mental strain, worry, improper metabolism, etc., and guard against the inter-current maladies.

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As Clouston remarks: "Attaining a very old age depends "not on the brain only but also on the stomach, and "the general nutrition of the body, and especially in "the man's not possessing any marked weakness in any "single organ of his body"; and he goes on to say that "old age being a natural process should, like all "other natural processes, not be a cause of unsoundness "of mind of itself, but the trouble is that all brains "do not pass through natural processes in a normal "manner."

The mental change which we associate with advancing years is well known to all of us, and has been ably described by many authors. It is nothing less than a process of normal involution. The field of mental activity becomes lessened, and although the brain is considered, under ordinary conditions, to be the most resistive of all the organs of the body to the effects of old age,- provided the individual lives long enough, changes of a degenerative nature must eventually show themselves and the cerebral tissues cannot escape.

It is generally recognised that when actual mental deterioration has set in, we have to deal not only with a physiological but with a pathological element as well.

The circulating toxins of chronic alcoholism, influenza, syphilis, gout, rheumatism, etc. are ever ready to supply the morbid factor, and how frequently

do we find the clinical picture of old age tinged by one or other of these elements.

Heredity does not appear to be an essentially important factor in the production of mental unsoundness during the senile period. It may be taken as a general rule that the individual with a strongly inherited mental instability is more liable to breakdown in early or mid-life, and is less likely therefore to succumb in later years to its baneful influence. As Robertson[8] remarks: "Hereditary insanity develops during adolescence and almost always appears before the age of 35".

When the sixtieth year has been passed, while many individuals show a falling off in general nutrition, sexual power, and muscular energy, changes in the intellect may not have appeared and there may be no evidence whatsoever of oncoming mental death. A few happy individuals, indeed, appear to preserve their mental faculties up to the end. What they have apparently lost in freshness and vigour of intellect they have gained in a wide and ripened outlook on life, and in general mental stability. These fortunate individuals, although apparently in the minority, are merely examples of the normal.

We can readily understand that when the blood vessels supplying the cerebral tissues show marked signs of degeneration - that is to say, when their lumen is gradually interfered with or even obliterated-

then the cerebral area supplied by those vessels is rendered anaemic; a condition of stagnation is brought about, and the brain tissue is no longer receiving its proper nourishment.

In such conditions the cerebral mechanism must be interfered with and the mental process rendered less active. On the other hand, it appears that degenerative changes may primarily attack the cortical nerve cells and their appendages; in such conditions the process of decay must surely be precipitated by the advance of a generalised and superadded arterio-sclerosis.

In senility, highly functioning cells, such as we find in the cerebral cortex, show a tendency to degeneration and atrophy; the capillary blood vessels are affected; there is a gradual diminution in size of the cerebral convolutions, increase of neuroglia, and a general shrinkage of brain substance.

Degenerative changes following upon a generalized arterio-sclerosis are not confined to the cerebrum; indeed these changes are as a rule well marked throughout the body. We find that fatty and fibroid elements tend to replace the more highly functioning parenchyma.

The muscular coat of the blood vessels is specially liable to be affected; degeneration products infiltrate their walls; the normal elasticity is lost. The arteries can no longer respond to variations in

pressure; these are the pipe-stem arteries of old age. The well known dictum that "a man is as old as his arteries" appears to carry conviction.

The bodily signs of senility are as a rule fairly well marked - the face becomes thin, the body emaciated, the skin wrinkled. The eyes become sunken and dim, the hair grey and scanty; the voice becomes altered and may assume a childish treble. Energy is diminished and muscle tremor is common - especially in the head and upper extremities. The figure stoops and later becomes bowed and bent. Sexual power may be preceded by a few irritable outbursts before being finally lost altogether. These signs all indicate a gradually failing nutrition.

The mental changes are often no less marked. The mental process has become less active, enfeeblement of memory and perception are evident. New ideas and impressions cannot easily be absorbed; older ideas, although perhaps retained, become more and more restricted and stereotyped; in short, the whole intellectual field becomes warped and limited. Sometimes also such qualities as irritability, selfishness, suspicion and lack of consideration for others are specially evident. As Tanzi[q] remarks: "From these "states of mental deterioration to the senile demen- "tias there is a constant succession of insensible "gradations which it is not possible to separate "distinctly from one another."

DEDUCTIONS.

1. Pubescence.

Let us now turn to the facts which are set forth in my various tables.

A superficial glance at table II. which shows the total number of cases at all ages, is almost sufficient to demonstrate that the physiological crises of life do not play such an important part as might at first be supposed.

One would naturally expect that the greatest strain on nature would be made during the so-called 'developmental' periods, but so far as my figures show, this is far from being the case. During the periods of pubescence and adolescence there are only 45 cases of mental illness out of the 500 cases examined. Is it that nature has specially endowed the individual with strong resistive power during these periods? It would appear as if the individual were specially safeguarded - a provision of nature to preserve the stock during the early periods of life.

The period of pubescence calls for no further comment, as only two cases are included. I am compelled to think, therefore, that acquired insanity at this time of life is of rare occurrence. As Clouston[10.] remarks: "Unsoundness of mind apart from "congenital defect and delirium is rarely seen in "children under 10 years of age. There are, however,

"cases recorded of most forms of unsoundness of mind as having occurred in childhood, but they are so "recorded on account of their extreme rarity."
In the majority of cases mental unsoundness in childhood is congenital in origin; if not actually insane, they show some signs of degeneracy. At the present time, degenerates are found in comparatively small numbers in asylums, as the opinion was held that the liberty of the individual could not be forfeited simply because he was a degenerate - hence these unfortunates have roamed at large helping to swell the ranks of criminals and 'perverts'. It is only now, with the introduction of the Mental Deficiency Act, that such people will be supervised and cared for.

The congenital conditions I did not include in the 500 cases; and if we exclude the degenerates - of which there were a remarkably small number, certainly not more than six - we are confronted with a fact of great significance, that out of the 500 cases of acquired insanity only two occurred during the period of pubescence. This fact is all the more striking when we realise that I have taken the years of puberty to include even up to 17 - thus giving the benefit to a possible late pubescence which conceivably might occur.

Surely then this period of life is not greatly to be feared; given proper training and suitable environment, nature herself will take care of the young.

2. Adolescence.

Out of the 500 cases it is surely striking that only 43 are noted as occurring during the period of adolescence. This number is undoubtedly low, but I am inclined to believe that it is partly accounted for by the fact that nature is still exerting her 'defending' influences. Again, we must consider that no case of congenital insanity is included, nor are the mental exacerbations in connection with epilepsy taken into account. Although we admit that such conditions are by no means uncommon at this stage of life, we justly conclude that the instability of adolescence is purely physiological.

Is not the so-called 'flightiness' and instability of youth but a temporary phase, and one which we trust will be successfully passed through? Indeed, if such characteristics persist beyond the normal stage of adolescence, we are led to believe that the individual is not properly developed; in short, we should call him childish or infantile.

I have already mentioned that it is during the period of adolescence that the reproductive activity asserts itself; at the same time, the effects of heredity, whether favourable or unfavourable, exert a powerful influence. Indeed, we may safely assume that the majority of cases of mental unsoundness which occur during the period of adolescence exhibit the inherited taint. It would appear from my tables that

cases of mania preponderate over all other forms of insanity of the adolescent group. This fact is borne out by the Lunacy Commissioners' Report, in which they state that "Under 25 years of age in both sexes cases of mania head the list, being proportionately far more common than melancholia, especially amongst females."

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3. Adult Life.

Referring once more to the 500 cases, I find that 174 - or rather more than a quarter of the total number - occurred during the adult period. I have previously stated that the adult stage infringed upon or overlapped the climacteric period, and that we could justly infer that a man, for example, at 55 was still in full mental vigour. For statistical purposes, therefore, I am justified in including the adult and climacteric periods in one large group; in so doing I find that 150 cases must be added, making a grand total of 324. That is to say, 324 out of 500 mental cases - or 65 per cent - occurred between the ages of 26 and 55 — the middle period of life.

This fact is striking and is surely of the very greatest interest and significance. At once we ask ourselves the question: what is it that has caused the illness at a time when presumably the individual is at his best, both mentally and physically? I would be inclined to answer this question by stating that it is during the middle period of life that such factors as continued mental strain and worry are at their height; and it is significant that such elements form the only cause in a large proportion of the 500 cases examined.

On the other hand, we meet with an authority who does not believe that the strain of modern competition is an important factor in producing insanity.

But can we reasonably compare the stimulation of a healthy competition which tends to quicken intelligence and increase our mental energy, with the dull mental strain and worry which weighs so heavily upon the individual who is probably overworked, undermined in health and constitution, and the bearer of the heaviest of all burdens - an inherited mental instability? There may be a struggle, but the struggle is futile and ineffectual, and the brain ultimately falls into disorder.

[12.]

Dr. Robertson of the Royal Edinburgh Asylum, in his recent annual report, does not blame the stress of modern competition so much as these apparently inseparable associates of modern life - alcohol and syphilis. He states that "One half of the insanity "that occurs in men between the ages of 35 and 55 "is mainly due to these causes, and it is largely "preventible."

There is strong evidence in my statistics that conditions of mania, melancholia, and delusional states predominate during the mid-period of life. In the adult stage from 26 to 40 years, cases of mania are most common in both sexes, whilst during the climacteric period cases of melancholia predominate.

[13]

The Commissioners in Lunacy state that, "Melancholia which also prevails to a large extent "throughout life is most common in both sexes beyond "middle age", and that "delusional insanity in both

sexes prevails from 25 to 54."

Clouston[14] notes that "The unsoundnesses of "the mid-period of life are as a general rule different in type from those of the adolescent period. "Depression, fixed delusional conditions, alcoholic, "puerperal and lactational forms of insanity form "a considerable portion of the total mass of unsound- "ness at that time."

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4. The Climacteric.

With reference to the climacteric period, I found that 150 cases occurred. I include the years from 41 to 55, and, as I have already pointed out, a man at 55 may be still in adult life. I do not, therefore, feel justified in expressing strong views as to the true nature of mental illnesses at this time of life. Out of the 150 cases to which I have already referred, it is impossible to say for certain how many were undoubtedly of climacteric origin. It is striking that one-third of the total were cases of melancholia; indeed, we recognise that this is a disease most commonly associated with the climacteric. It is natural that the influence of the period, with its commencing failure of physical and mental energy, is most apt to breed a spirit of pessimism and depression. Again, some of the cases must be looked upon as recurrent attacks, or in other words, they belong to the manic-depressive group. More than one-fifth of the cases which occurred at this period were those of mania, and it is interesting to note that only 49 cases of delusional insanity came into the climacteric group.

Clouston[15.] remarks that "When the mental changes "accompanying the climacteric - which may be said to "be more or less normal - pass into the technical "unsoundness of the period, the symptoms are in most "cases those of melancholia. They are more common in

"the female than in the male sex, and occur earlier, "generally between 40 and 50."

The Lunacy Commissioners[16] note that during the climacteric "The actual attacks were in many cases "induced by, or associated with, mental stress."

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5. The Presenile period & Senility.

During these periods - the periods of decadence, the intention of nature to preserve his stock is not so evident.

On entering the presenile period the individual already has passed his middle life and his powers have commenced to wane. We are scarcely surprised that a man who has stood the wear and tear of life for 55 years, should not become more vulnerable. It is well known that certain individuals may show signs of senility at the age of 56. I will therefore include in one group the presenile atate and senility. In my statistics, 131 cases are noted as occurring during this period. Again, the forms of mania, melancholia, and the delusional states appear to predominate. It is suggestive that the factor of heredity does not appear to be associated to any extent with the insanities occurring at this period, and, as I have already stated, it may be taken as a general rule that the individual with a strongly inherited mental taint is more liable to break down in early or mid-life, and is less likely, therefore, to succumb in later years to its baneful influence.

I have laid special stress upon the bodily changes which are normally associated with old age, and it is interesting to note that the Lunacy Commissioners in their annual report state that "Conditions of cardio-vascular degeneration and

"valvular heart disease, especially the former,
"prevail in individuals attacked for the first time
"by insanity when advancing in years; and no doubt
"such circulatory derangements had some share in the
"cerebral degeneration to which the mental symptoms
"might probably be ascribed."

CONCLUSIONS.

From my observations I would make the following conclusions:-

1. Acquired insanity during the period of pubescence is of rare occurrence.

2. Acquired insanity during adolescence is rarer than might be supposed. I find evidence of it in only 43 out of 500 cases, and in these the hereditary taint was prominent.

3. During the period of adult life acquired insanity is prominent. I find 174 out of 500 cases; if we include the climacteric group of 150 cases, we are confronted with the fact that 324 out of 500 - or 65 per cent of the total number - occurred during middle life.

4. As there is presumably no strain thrown upon the body during adult life comparable with the strain of the so-called 'developmental' periods, we assume that other factors are at work. These factors appear to be worry, mental strain, over-work, conditions of privation, etc.
Nor can we omit the important elements - alcohol and syphilis.

5. Conditions of melancholia appear to predominate at the climacteric period.

6. Acquired insanity during senility is not uncommon. I find 131 out of 500, but at this period we must remember a gradually failing nutrition will surely aggravate adverse external circumstances. It is a period of decadence and is therefore not comparable with the normal periods of pubescence and adolescence.

7. There is no evidence from my statistics that the physiological age epochs are of great importance in the causation of mental unsoundness.

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Number	Sex v Age M	Sex v Age F	No. of attack.	Age at most of first attack.	Diagnosis	Any known cause.
1		62	1	62	Delusional	Change of life.
2		49	1	49	Melancholia	Death of mother
3	35		4	17	Mania	Heredity
4		31	1	31	Mania	Influenza.
5	63		1	63	Delusional	Bad leg.
6		48	2	28	Delusional	Overwork & domestic worry.
7		53	1	53	Melancholia	Loss of husband.
8		58	1	58	Melancholia	Heart disease.
9		42	1	42	Delusional	Love affairs.
10		30	1	30	Melancholia	Disappointment in love
11		52	1	49	Delusional	Change of life
12		53	1	40	Delusional	Rheumatic fever
13		50	1	50	Mania	Influenza
14		64	2	50	Mania	Sudden death of relative
15	73		1	73	Dementia	Dissipated habits, senility
16		75	1	75	Delusional	senility
17	32		1	32	Confusional	Low state of health.
18		30	1	30	Dementia primary	adolescence.
19		21	2	19	Mania	adolescence
20	49		1	49	Melancholia	Rheumatism
21	40		1	40	Delusional	Worry & disappointment in love
22		49	1	49	Delusional	Unknown.
23		57	1	51	Delusional	Heredity
24		56	1	46	Mania	Heredity.

Number	Sex & Age M	Sex & Age F	No. of attack	age at onset of first attack	Diagnosis	Any known cause.
25		34	2	20	Delusional	Love affairs
26		65	1	57	Delusional	Change of life
27		38	1.	32	Delusional	Overwork
28		48	1	46	Melancholia	Ill health
29	27		1.	27	Delusional	Fire raising &c.
30		35	6	18	Confusional	Bad health.
31	54		2	41	Mania	Business worry.
32		33	1.	33	Dementia	Phthisis.
33		27	1.	27	Mania	Influenza
34		32	1.	32	Mania	Disappointment in love
35		24	1.	24	Mania	Worry over mother
36		38	1.	38	Confusional	Privation.
37	28		2.	23	Delusional	Unknown.
38	65		8	38	Mania	Kidney disease.
39	31		2	30	Delusional	Previous attacks
40	61		2	60	Melancholia	Worry.
41		44	1	44	Mania	Amputation of breast.
42		75	1	75	Dementia	Senility.
43		76	3	60	Delusional	Previous attacks.
44		39	4.	32	Melancholia	Shock.
45		30	1	30	Mania	Death of child.
46	66		1	66	Confusional	Influenza
47		52	1	52	Delusional	Worry over money matters.
48		77	1.	77	Dementia	Gangrene of foot

Number	Sex v Age. M	F	No. of attack	Age at onset of first attack	Diagnosis	Any known cause.
49		25	2	19	Confusional	Extreme nervousness
50		41	1.	39	Melancholia	Change of life
51	25		1.	22	Delusional	Adolescence.
52	49		1.	48	Mania	Neurotic family history
53	59		2.	47	Melancholia	Operation for tumour of orbit.
54	35		1.	35	Confusional	Constitutional.
55		54	1.	54	Dementia	Privation.
56	35		1.	35	Confusional	Constitutional
57		39	1	39	Confusional	Neurasthenia.
58		28	1.	28	Melancholia	Operation
59		26	1.	26	Confusional	Teeth extraction.
60		46	1.	40	Chronic Mania	Disappointment in love
61		26	2	24	Mania	Nervous constitution.
62	26		1	26	Melancholia	Domestic worry.
63	38		6	22	Delusional	Constitutional
64		38	1.	38	Delusional	Laudinum drinking
65		25	1	25	Mania	Masturbation.
66		36	2	31	Melancholia	Bad health.
67		60	1.	59	Delusional	Influenza
68		27	2	27	Confusional	Previous attack
69		56	1.	56	Melancholia	Heredity
70	62		1.	62	Melancholia	Ill health.
71	22		1.	22	Acute Mania	Exposure to sun
72	75		1.	75	Melancholia	Senility.

Number	Sex M	Sex F	Age	No. of attack	Age at onset of first attack	Diagnosis	Any known cause.
73		33		1	33	Delusional	Nervous constitution
74		38		1	38	Mania	Paralytic stroke
75		21		1	21	Melancholia	Worry over illegitimate child
76	22			2	?	Mania	Death of relative
77		65		2	55	Melancholia	Domestic trouble.
78		59		1	59	Mania	Influenza
79	62			3	46	Delusional	Previous attacks.
80	56			2	36	Melancholia	Money losses.
81	68			1	68	Confusional	Senility.
82		43		2	42	Mania	Domestic worry.
83	36			2	25	Delusional	Influenza
84	52			2	45	Mania	Mental stress, overwork
85		50		1	50	Melancholia	Change of life
86		69		1	69	Mania	Senility
87	40			1	40	Delusional	Business worry.
88		45		1	45	Melancholia	Operation
89	54			1	54	Mania	Worry.
90		74		1	72	Dementia	Husbands accidental death
91	51			2	45	Mania	Heredity.
92	65			1	65	Melancholia	Worry and nervousness.
93	70			1	70	Delusional	Influenza
94	70			2	36	Delusional	Senility
95	76			1	76	Delusional	Senility
96		43		1	43	Delusional	Worry.

Numbers	Sex & Age M	Sex & Age F	No. of attack	Age at onset of first attack	Diagnosis	Any known cause.
97		50	1	50	Melancholia	Mental shock & worry.
98		55	1	55	Mania	Shock from sister's death.
99	46		3	16	Mania	Worry over flower-show.
100		48	1	48	Delusional	Change of life
101		48	1	48	Melancholia	Anxiety over business
102		40	2	39	Confusional	Previous attack
103	49		1	49	Melancholia	Financial worry.
104		47	3	20	Melancholia	Change of life
105		39	2	33	Mania	Change of life
106	20		1	19	Mania	Adolescence.
107		43	4	40	Delusional	Change of life
108		59	2	33	Delusional	Death of relatives
109	19		1	19	Melancholia	Influenza
110	48		2	43	Melancholia	Worry over business affairs
111	54		3	32	Melancholia	Over-work
112	40		7	22	Delusional	Heredity
113		32	1	32	Delusional	Jealousy and Vanity
114		47	1.	47	Melancholia	Bad health.
115		62	1.	62	Confusional	Cerebral haemorrhage?
116	30		2	29	Mania	Worry
117	45		2	40	Delusional	Business worry and heredity
119		47	2.	32	Melancholia	Domestic worry
120	53		1	53	Delusional	Heredity
121	48		1..	48	Delusional	Mental strain & worry.

* See page XXI

Number	Sex & Age. M	F	No. of attack	Age at onset of first attack	Diagnosis	Any known Cause.
122		34	2	32	Mania	Family worries
123		74	1	74	Mania	Senility.
124	38		1	38	Delusional	Business stress & worry
125		65	1	65	Delusional	Injury to head.
126	35		1	35	Mania	Overwork & worry
127	52		2	50	Confusional	anxiety about unemployment
128	27		1	27	Mania	Overwork.
129	46		2	41	Melancholia	Heredity
130		64	2	44	Melancholia	Mode of life.
131	51		3	47	Melancholia	Heredity
132		37	1	33	Delusional	Heredity
133		66	1	66	Melancholia	Abdominal operation
134	56		1	56	Mania	Insomnia
135		36	3	30	Delusional	unknown.
136		26	2	25	Delusional	Privation and Sleeplessness
137	47		1	47	Delusional	Loss of employment.
138	40		1	40	Mania	Unknown.
139		54	3	46	Mania	Worry over deceased sister
140		52	1	50	Delusional	Privation
141		42	1	42	Mania	Prolonged strain nursing husband.
142		60	1	56	Delusional	Senility.
143		37	1	37	Confusional	Influenza.
144		35	1	35	Delusional	Worry
145	36		6	26	Delusional	Overwork.

Number	Sex v Age M	Sex v Age F	No. of attacks.	Age at onset of first attack	Diagnosis	Any known cause
146	43		1	43	Melancholia	Upset at going into lodgings
147		47	1	47	Melancholia	Change of life
148	55		3	52	Delusional	Overwork
149	65		?	53	Delusional	Previous attacks
150		79	1	79	Mania	Senility
151	41		2	40	Mania	Disappointment & unemployment
152	77		2	68	Delusional	Senility
153		43	2	35	Delusional	Heredity
154		40	1	40	Delusional	Internal abscess.
155		71	1	71	Melancholia	Family bereavement
156		40	1	40	Delusional	Change of life
157		23	2	20	Mania	Adolescence
158		44	1	44	Melancholia	Change of life
159	28		1	28	Delusional	Stress & privation.
160		58	2	57	Mania	Shock of husband's death
161		64	1	61	Melancholia	Due to self isolation.
162	39		1	38	Delusional	Mental strain & overwork
163	38		8	37	Delusional	Dissolute habits.
164	47		1	47	Delusional	Sunstroke
165	35		1	35	Delusional	Heredity
166	38		1	33	Delusional	Overwork and weak constitution
167	39		2	29	Delusional	Unknown.
168		52	1	27	Melancholia	Neurotic family history
169		28	2	26	Melancholia	Shock of fathers death.

Number	Sex M	Sex F	No. of attack	Age at which first attack occurred	Diagnosis	Any known cause.
170		36	1	16	Delusional	weak minded disposition.
171	34		1	34	Delusional	Religion & overwork.
172		26	1	26	Delusional	Heredity.
173	23		1	21	Delusional	Over study
174		39	2	35	Mania	Domestic worries
175		63	1	63	Delusional	Worry
176	82		1	80	Mania	Senility
177	53		1	53	Delusional	Influenza.
178		37	2	29	Mania	Fright.
179	42		1	42	Melancholia	Faith-healing & Sleeplessness.
180		42	2	34	Melancholia	Domestic worry
181		57	1	48	Mania	Shock of son's death
182		31	1	31	Delusional	"Run-down" in health
183		49	4	25	Melancholia	Heredity
184	52		1	52	Mania	Business worry & strain.
185	77		1	74	Mania	Senility
186	51		1	51	Mania	Heredity
187		38	2	32	Melancholia	Mental worry
188	29		?	26	Mania	Sunstroke
189	60		1	60	Mania	Lumbago & Rheumatism
190		51	1	51	Mania	Climacteric
191		36	1	36	Melancholia	"Run-down" in health
192	74		1	74	Melancholia	Senility
193	71		1	70	Melancholia	"Run-down" in health

Number	Sex, Age. M	F	No. of attack	Age at onset of first attack	Diagnosis	Any known cause.
194		37	1	37	Melancholia	Phthisis and worry
195		51	1	51	Mania	Irritability and worry
196		57	?	31	Mania	Heredity
197	18		1	18	Melancholia	Adolescence
198		36	3	30	Mania	Previous attacks.
199		51	1	51	Delusional	Heredity.
200	40		1	40	Mania	Privation.
201	52		2	27	Melancholia	Overwork and worry
202	46		1	46	Mania	Influenza.
203		66	1	66	Dementia	Senility
204		64	1	64	Melancholia	Death of only daughter
205		20	1	20	Melancholia	Religion.
206	17		1	17	Mania	Puberty
207	27		1	27	Delusional	Shock
208		34	1	34	Delusional	Bad health, fever, diphtheria etc.
209		51	3	?	Delusional	Shock
210	24		1	24	Delusional	Neurotic constitution, adolescence
211		22	1	20	Dementia	Neurotic constitution, adolescence
212		68	1	68	Delusional	Worry and senility
213	22		1	19	Dementia	Adolescence
214		65	1	65	Delusional	Death of husband
215		55	1	55	Melancholia	Bad health
216	67		1	67	Mania	Cycle accident + petty worries
217		50	2	45	Melancholia	Husbands death.

X.

Number.	Sex & Age m	Sex & Age F	No. of attack	Age at onset of present attack	Diagnosis	Any known cause.
218		52	2	51	Melancholia	Climacteric
219	33		1	33	Delusional	Privation
220	68		1	68	Senile Mania	Senility
221		33	1	33	Delusional	Worry
222		62	?	?	Delusional	Heredity
223	31		1	31	Delusional	Worry about farm.
224	45		1	45	Melancholia	Worry
225	53		2	50	Melancholia	Irregular habits
226	63		2	52	Melancholia	Mental Stress & worry
227	29		3	26	Dementia	Strain & mental worry
228		49	1	48	Delusional	Privation
229		48	1	48	Melancholia	Change of life
230		31	2	22	Melancholia	Overwork
231		51	1	51	Melancholia	Operation.
232	50		1	50	Confusional	Loss of eye
233	38		3	22	Delusional	Irregular habits & heredity
234	47		1	47	Mania	Weak heart
235	27		3	19	Dementia	Heredity
236		36	1	27	Dementia	Love affair (jilted) & heredity
237	66		1	66	Delusional	Senility
238	40		1	40	Delusional	Political Excitement
239		31	1	28	Delusional	Probably menstrual
240		67	1	67	Confusional	Senility
241		32	1	29	Mania	Disappointment in love.

Number	Sex & Age M	Sex & Age F	No: of attacks	age at onset of first attack	Diagnosis	Any known cause.
242		38	1	33	Delusional	Heredity
243	38		1	35	Mania	Bad health
244		37	2	25	Melancholia	Family bereavements
245		55	1	55	Confusional	Ill health
246	19		1	19	Confusional	Puberty.
247	74		4	53	Folie circulaire	Worrying disposition
248		40	1	40	Delusional	Tuberculosis
249	55		4	52	Delusional	Previous attacks
250		36	1	36	Delusional	Bad health and injury
251		35	1	35	Mania	Heredity
252	28		2	23	Delusional	Heredity
253		55	1	55	Dementia	Senility
254		45	3	45	Melancholia	Worry
255	40		2	30	Mania	Business troubles.
256		71	1	71	Melancholia	Senility
257		63	1	63	Delusional	Senility
258		49	1	49	Mania	Irregular habits
259	21		1	21	Melancholia	Blow on head
260	58		1	58	Delusional	Worry and heredity
261	28		1	28	Delusional	Overwork & worry
262	64		1	64	Melancholia	Influenza & heredity
263		49	1	49	Mania	Irregular habits of life
264	42		1	43	Melancholia	Poor bodily health
265	42		2	40	Mania	Ill health

Number.	Sex + Age. m	F	No. of attack	age at onset of first attack	Diagnosis	Any known cause.
266		28	1	28	Delusional	Sleeplessness
267	46		1	46	Delusional	Low state of health
268	60		1	60	Mania	Religion
269		73	1	73	Melancholia	Senility
270		36	1	36	Mania	Sleeplessness + Chronic catarrh
271		38	1	38	Delusional	Unknown.
272	60		1	60	Mania	Overwork + worry
273		47	1	44	Delusional	Irregular life
274	62		1	62	Delusional	Business worries
275	30		1	30	Delusional	Bad health
276	64		1	64	Melancholia	Financial losses + worry
277		45	1	45	Melancholia	Shock of husbands death
278	70		1	70	Mania	Senility
279	51		1	49	Mania	Suicide of brother
280	39		5	30	Mania	Irregular habits
281	71		3	70	Melancholia	Senility
282	35		1	35	Confusional	Mental stress + weak-will
283		44	1	44	Melancholia	Family troubles + heredity
284	64		2	58	Melancholia	Influenza
285	66		1	66	Melancholia	Organic disease of heart
286		30	1	30	Mania	Weak health
287		39	2	16	Mania	Puberty and Heredity
288	35		1	35	Delusional	Fall on head + father's death
289	47		1	47	Melancholia	Worry and ill. health.

Number	Sex & Age. M	F	No. of attack	age at onset of first attack	Diagnosis	Any known cause.
290	24		1	24	Delusional	Irregular habits & heredity
291		58	3	51	Mania	Bad health
292	63		1	63	Mania	Worry & unemployment
293	63		2	35	Delusional	Senility
294		62	2	55	Mania	Previous attacks
295		30	1	30	Delusional	Worry & nervousness
296		63	2	62	Delusional	Senility.
297	54		1	54	Melancholia	Bad health & heredity
298	70		1	70	Confusional	Senility
299		34	1	26	Delusional	Disappointment in love
300	49		1	49	Confusional	Privation
301	24		1	24	Delusional	Injury to eye & neurotic constitution
302		38	1	38	Melancholia	Family worry
303	73		1	73	Mania	Senility
304		37	1	34	Delusional	Business worry & heredity
305		20	1	20	Confusional	Bad health.
306		34	4	18	Mania	Fright (Tossed by a cow.)
307		65	2	56	Melancholia	Death of Father.
308		44	2	34	Delusional	Change of life, heredity
309		34	2	34	Melancholia	Irregular habits
310		33	1	21	Melancholia	Irregular habits, weak-minded
311	33		1	33	Mania	Religion
312		69	1	69	Mania	Senility
313	44		1	44	Melancholia	Overwork & worry.

Number	Sex & Age. M	F	No. of attacks	Age at onset of first attack	Diagnosis	Any known cause.
314	23		1	23	Delusional	Privation & irregular life
315		30	1	30	Confusional	Overwork
316	46		1	40	Delusional	Irregular habits
317		65	2	52	Confusional	Previous attacks
318		30	1	29	Mania	Influenza.
319	31		2	21	Delusional	Heredity
320	30		1	30	Delusional	Worrying disposition
321	21		2	19	Delusional	Irregular habits, heredity
322	26		1	26	Delusional	Sunstroke, love affair.
323	50		2	28	Melancholia	Worry
324	29		1	24	Melancholia	Religion & heredity
325	46		1	46	Mania	Loss of employment
326	61		1	61	Melancholia	Bad health (Bright's disease)
327	54		1	54	Melancholia	Strain of occupation
328		66	1	66	Dementia	Senility
329		27	1	27	Melancholia	Chlorosis & worry
330		33	1	33	Delusional	Domestic worry
331	17		1	17	Confusional	puberty
332		34	3	24	Mania	Unhappy marriage
333		43	2	38	Mania	Irregular habits
334		47	1	47	Mania	Chill & religious ideas
335	38		1	38	Delusional	Irregular habits
336		71	2	40	Dementia	Senility
337		15	1	12	Dementia primary	Puberty

Number	Sex & age M	F	No. of attacks	Age at onset of first attack	Diagnosis.	Any known cause.
338		56	1	53	Confusional	Insomnia.
339		30	1	18	Dementia primary	Puberty
340	26		1	20	Dementia primary	Puberty.
341	29		1.	29	Delusional	Heredity
342	40		2	39	Delusional	Unemployment.
343	34		1	34	Delusional	Not known.
344	21		1.	21	Mania	Heredity
345		85	1	85	Mania	Senility
346	33		1	33	Delusional	Bad health
347		43	1	41	Delusional	Change of life
348	69		2	54	Mania	Bad health.
349		58	1	38	Dementia	Heredity
350		25	1	23	Confusional	Severe Scarlatina dis.
351	53		1.	53	Confusional	The Insurance Act
352	25		1	23	Melancholia	Overwork and worry
353	53		7	32	Mania	Previous attacks
354		70	1	70	Delusional	Senility
355	33		1.	31	Dementia	Heredity, weakminded.
356		46	2	44	Delusional	Heredity.
357	57		1	57	Melancholia	Bad health & worries
358		31	1	31	Melancholia	"Run-down", insomnia
359		66	1	60	Melancholia	Shock, death of relative
360	23		2	20	Confusional	Adolescence
361	49		1	46	Delusional	Sunstroke.

Number	Sex & Age. M	F	No. of attack	Age at present or first attack	Diagnosis	Any known cause.
362		30	1	30	Melancholia	Religious enthusiasm.
363		61	2	59	Mania	Influenza & irregular habits
364		26	2	20	Dementia	Adolescence.
365		35	1	35	Confusional	Unknown.
366		38	2	34	Confusional	Previous attack
367		48	1	48	Melancholia	Heart Disease
368		55	1	51	Delusional	Heredity
369		47	2	43	Melancholia	Change of life.
370		42	1	42	Confusional	Bad health & change of life
371	41		1	41	Confusional	Irregular habits, worry.
372		58	1	28	Dementia	Heredity
373	39		2	38	Mania	Insomnia & previous attack
374	31		1	31	Delusional	Accident to ankle, worry.
375		65	3	52	Melancholia	Previous attacks
376		47	1	47	Melancholia	Herpes frontalis.
377		21	1	21	Dementia	Religious excitement.
378	86		1	86	Mania	Irregular habits & senility
379		73	2	73	Melancholia	Senility
380	32		3	30	Delusional	Strain during S. African war
381	26		2	18	Delusional	Disappointment in love
382	25		2	15	Delusional	Puberty
383	67		2	57	Melancholia	Overwork and heredity
384	70		2	70	Melancholia	Senility
385	59		1	59	Delusional	Worry and irregular habits

Number	Sex & Age M	Sex & Age F	No. of attack	age at onset of first attack	Diagnosis	Any known Cause.
386		64	1	64	Mania	Fright and worry
387		30	1	30	Delusional	Unrequited affection.
388		47	1	44	Delusional	Change of life
389		49	2	43	Melancholia	Climacteric
390		49	2	44	Delusional	Political excitement & climacteric
391		62	2	53	Mania	Brother attempted suicide
392		51	2	41	Delusional	Previous attacks
393		35	3	21	Mania	Puberty.
394		59	1	59	Mania	Money worries
395		50	2	35	Delusional	Change of life.
396		45	1	45	Confusional	Privation.
397		70	2	54	Melancholia	Senility
398	36		1	36	Delusional	Over study.
399	46		1	44	Dementia	Unknown.
400	25		1	25	Confusional	Starvation & Overwork
401		40	1	40	Mania	Strain of nursing husband
402		32	1	32	Delusional	Superfluous hairs on face.
403		63	1	63	Mania	Irregular habits, heredity
404		37	1.	37	Mania	not known.
405	38		1.	38	Melancholia	Loss of employment
406		34	1	34	Melancholia	Operation
407	44		1	44	Mania	Irregular habits, worry
408	41		2	30	Delusional	Blow on head with poker
409		44	2	40	Confusional	Heredity.

Number	Sex & Age. M	F	No. of attack	age at onset of first attack.	Diagnosis	Any known cause.
410	45		1	45	Confusional	Influenza.
411		38	3	31	Delusional	Previous attack.
412	29		1	29	Delusional	Father's death
413	68		1	61	Confusional	Senility and heredity
414		67	1	67	Delusional	"Run-down" in health
415	41		3	40	Delusional	Irregular habits, worry
416	50		1	50	Melancholia	Worry over farm.
417	31		1	31	Delusional	Mental stress & worry
418		29	1.	29	Mania	Heredity.
419		20	1	20	Delusional	Love affair, exposure to sun abroad.
420		46	2	30	Mania	Shock, fright.
421		55	1	55	Delusional	Worry & financial distress
422		44	1	44	Delusional	Severe & prolonged metrorrhagia
423		57	1	57	Confusional	Irregular habits & business worries
424		40	1	40	Mania	Business worry.
425		18	1	18	Mania	overwork at school.
426		61	4	25	Mania	Death of mother.
427		62	1	62	Melancholia	Husband's death and worry
428		64	1	64	Melancholia	Sunstroke at age of 18.
429		29	3	20	Delusional	Former attacks
430		42	1	42	Confusional	Father's death.
431		46	1	46	Mania	Abdominal operation
432		36	1	36	Melancholia.	Love affair, worry, overwork
433		38	2	30	Delusional	Chr. asthma, neurotic tendency.

Number.	Sex & Age M	Sex & Age F	No. of attack	age at onset of first attack.	Diagnosis	Any known cause.
434		24	1	24	Mania	Love affair & mothers illness
435		44	1	44	Melancholia	Fright & worry
436		35	1	35	Mania	Carriage accident
437		34	2	34	Mania	Unknown.
438		60	2	56	Melancholia	Unknown.
439		40	1	40	Melancholia	Teeth extraction & brothers death
440		59	1	59	Delusional	Financial worry
441		42	1	42	Delusional	Mothers death.
442		71	1	71	Delusional	Senility
443		42	1	42	Delusional	Unknown.
444		24	1	24	Mania	Nervous constitution, heredity
445		58	1	58	Mania	accident & domestic worry.
446		43	1	43	Melancholia	Domestic overwork & worry.
447		56	1	56	Mania	Shock of bad news
448		32	1	32	Delusional	Love affair, overwork & worry
449		53	1	53	Melancholia	Domestic worry & influenza
450		67	2	55	Mania	Change of life
451		29	1	29	Delusional	Heredity.
452		31	1	31	Melancholia	Worry & overwork, nursing.
453		33	1	33	Delusional	Marriage
454		33	1	33	Delusional	Unknown
455		34	2	28	Mania	Financial worries
456	56		2	56	Delusional	overwork
457	50		2	45	Mania	Business worry & overwork

Number	Sex & Age M	F	No. of attack	Age at onset of first attack	Diagnosis	Any known cause.
458	21		1	21	Delusional	Sunstroke.
459	52		1	52	Delusional	Business worry & rash speculations
460	25		1	25	Delusional	Sunstroke abroad.
461	31		1	31	Mania	Love affair, overwork and study
462	46		2	40	Melancholia.	Unknown.
463	27		1	27	Delusional	Rough treatment on board-ship
464	50		4	35	Mania	Business worry.
465	62		1	62	Dementia	Senility, overwork in business
466	31		2	27	Melancholia	Rheumatic fever, domestic worries
467	60		1	27	Melancholia	Business worry & financial loss.
468	59		2	55	Mania	Worry & overwork
469	33		2	33	Delusional	Worry, taken prisoner in S. africa
470	24		1	24	Mania	Love affair
471	21		1	21	Mania	Not known.
472	25		1	25	Confusional	Worry & overwork as a student.
473	27		2	25	Delusional	Fright whilst convalescing from fever
474	58		1	58	Melancholia	Domestic quarrels, influenza
475	32		2	22	Dementia primary	Puberty
476	64		2	60	Melancholia	Business worries
477	59		3	45	Mania	Sunstroke abroad.
478	27		1	19	Dementia primary	Puberty
479	22		2	5	Dementia primary	Injury at 5 years of age.
480	31		2	28	Delusional	Fright and love affair
481	46		1	46	Delusional	Loss of money on his Stock Exchange

Number	Sex M	Sex F	Age	No: of attack	Age at onset of first attack	Diagnosis	Any known cause.
482	57			3	46	Mania	Injury to head
483	33			2	30	Mania	Heredity
484	35			1	35	Melancholia	Domestic worries
485	35			1	19	Dementia primary	adolescence.
486	54			1	54	Melancholia	Prolonged mental stress
487	48			1	48	Melancholia	Continued mental strain.
488	21			1	21	Dementia primary	Sudden mental stress, heredity
489	62			1	62	Melancholia	Heredity
490	43			1	43	Confusional	Business worry.
491	29			1	29	Mania	Overwork, debility
492	32			1	32	Delusional	worry & anxiety.
493	43			1	43	Melancholia	worry & heredity
494	42			1	42	Confusional	Heredity, mental stress
495	63.			3	60	Melancholia	Domestic trouble, heredity
496		33		1	32	Melancholia	worry, shock, pneumonia
497		24		3	16	Delusional	Heredity, adolescence
498		42		4	32	Delusional	Domestic worries, heredity
499		33		1	33	Mania	Worry, Dysmenorrhoea.
500		19		1	19	Mania	Influenza, insane heredity
118		64		5	58	Mania	Worry, heredity.

See page * V

Table II.

Ages.	Melancholia			Mania			Dementia praecox			Delusional Ins. Fixed.			Delusional Ins. unfixed.			Confusional Ins.			Total Receptions		
	M	F	Total	M	F	Total	M	F	Total	M	F	Tot.	M	F	Tot.	M	F	Total	M	F	Total
Pubescence. 10 – 17 years.				1		1	1		1										2		2
Adolescence. 18 – 25 years.	5	2	7	8	7	15	4	1	5	5	3	8	5		5	2	1	3	29	14	43
Adult. 26 – 40 years.	7	23	30	17	25	42	9	4	13	18	23	41	14	20	34	6	8	14	71	103	174
Climacteric. 41 – 55 years.	23	28	51	20	17	37	1	1	2	7	16	23	9	12	21	7	9	16	67	83	150
Presenile. 56 – 60 years.	6	6	12	3	11	14		1	1	3	4	7	3	1	4		3	3	15	26	41
Senility. 61 years + upwards.	18	12	30	11	19	30				3	8	11	7	5	12	5	2	7	44	46	90
																			Grand Total = 500		